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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,939	10/23/2003	Scott J. Clifford	16143	6309

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EXAMINER
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TADESSE, YEWEBDAR T

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/691,939

Applicant(s)

CLIFFORD ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 22-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☒ Claim(s) 22-28 and 30-35 is/are rejected.
- 7) ☒ Claim(s) 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11267560 in view of Bihn (4,712,739) and Gengenbach et al (US 2,930,350)

As to claim 22, JP'560 discloses (see English translated Detailed Description of the Invention, Abstract and Figs 8 and 11) a painting apparatus comprising an outer arm for a painting robot; an outer arm (6) for painting robot having a housing, a color changer (11) outside the housing (see Fig 11), the color changer (11) adapted to be connected to a paint supply; a paint canister (97) mounted inside the housing (see

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paragraph 51 and Fig 11) and a paint transfer line continuously connecting (see Fig 8) the color changer (11) to an interior of the paint canister for transferring paint from the color changer (11) to the interior of the paint canister (29, 97) and capable of providing electrostatic isolating of the paint canister from the color changer during use of the paint canister for painting. JP'560 lacks teaching an outer arm for a painting robot formed of a non-conductive material and the type of paint or application system. Bihn teaches an electrostatic or a non-electrostatic painting apparatus mounted on an industrial robot (see column 2, lines 31-35). One in the art would include an electrostatic spray device in JP'560's system to enhance atomization of the painting solution. Gengenbach et al discloses (see Figs 1 and 4; column 2, lines 55-63) in an electrostatic spray arrangement a housing (7) of the outer arm (see Fig 4) formed of a non-conductive material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an outer arm being formed of a non-conductive material in JP'560 to prevent electric hazards or to properly insulate the electric spray installation. With respect to the paint type used in JP'560 as modified, it is capable of being electrically conductive paint.

With respect to claim 32, JP'560 discloses (see English translated Abstract, Figs 2-3 and 8) a painting apparatus comprising an outer arm (6) for a painting robot; a paint canister (29) mounted on the arm (6), a color changer (11) mounted on the painting robot adapted to be connected to a paint supply (13) and a paint transfer line (19) continuously connecting the color changer (11) to an interior of the paint canister for transferring paint from the color changer (11) to the interior of the paint canister (29) and

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capable of providing electrostatic isolating of the paint canister from the color changer during use of the paint canister for painting. JP'560 lacks teaching an outer arm for a painting robot formed of a non-conductive material. Bihn teaches an electrostatic or a non-electrostatic painting apparatus mounted on an industrial robot (see column 2, lines 31-35). One in the art would include an electrostatic spray device in JP'560's system to enhance atomization of the painting solution. Gengenbach et al discloses (see Figs 1 and 4; column 2, lines 55-63) in an electrostatic spray arrangement a housing (7) of the outer arm (see Fig 4) formed of a non-conductive material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an outer arm being formed of a non-conductive material in JP'560 to prevent electric hazards or to properly insulate the electric spray installation. With respect to the paint type used in JP'560 as modified, it is capable of being electrically conductive paint.

4. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11267560 in view of JP 11-114873, Bihn (4,712,739) and Gengenbach et al (US 2,930,350)

As to claims 26-27, JP'560 discloses (see English translated Abstract and Figs 2 and 11) a painting apparatus comprising an arm for a painting robot; an outer end (6); a paint canister (97) mounted inside the housing (see paragraph 51 and Fig 11); a wrist (7) having one end (7a) attached to the outer end of the arm; and a wrist (7b) having an opposite end for mounting a paint applicator (8). JP'560 lacks teaching structural components of the wrist as well as the arm having a housing formed of a non-

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conductive material. However, JP873 discloses (see English translated Abstract and Fig 3) structural components (item 50 and insulating washers 31 and 32) of the wrist (wrist flange 20) formed of a non-conductive material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include structural components of the wrist formed of a non-conductive material in JP'560 to electrically insulate the robot with less load. Bihn teaches an electrostatic or a non-electrostatic painting apparatus mounted on an industrial robot (see column 2, lines 31-35). One in the art would include an electrostatic spray device in JP'560 device to enhance atomization of the painting solution. Gengenbach et al discloses (see Figs 1 and 4; column 2, lines 55-63) in an electrostatic spray arrangement a housing (7) of the outer arm (see Fig 4) formed of a non-conductive material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an outer arm being formed of a non-conductive material in JP'560 to prevent electric hazards or to properly insulate the electric spray installation.

With respect to claim 28, JP'560 discloses a paint transfer line continuously connecting (see Fig 8) the color changer (11) to an interior of the paint canister for transferring paint from the color changer (11) to the interior of the paint canister (29, 97) and capable of providing electrostatic isolating of the paint canister from the color changer during use of the paint canister for painting.

As to claim 30, in Fig 11, the color changer is mounted outside the arm housing.

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5. Claims 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11267560A in view of Bihn (4,712,739) and Gengenbach et al (US 2,930,350) and/or JP 11-114873 as applied to claims 22 or 32 above and further in view of Bab (US 5,127,831). Although JP'560 as modified teaches an arm formed of a non-conductive material, an arm formed of a polyamide material is not taught. However, it is well known in the art to interchangeably use PVC or polyamide material to attain similar flexible characteristics (see Bab, column 3, lines 6-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the arm of a polyamide material in JP'560 as modified since it is well known and convention to alternatively use polyamide as semi-flexible material.

6. Claims 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11267560A in view of Bihn (4,712,739) and Gengenbach et al (US 2,930,350) and/or JP 11-114873 as applied to claim 22 or 32 above and further in view of Plummer (US 4,884,752).

JP'560 lacks teaching a paint transfer line formed of an electrically insulating material. However, Plummer discloses a paint transfer line (32, 53) formed of electrically insulating material (see Fig 1 and column 3, lines 44-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a paint transfer line formed of electrically insulative material in JP'560 to achieve voltage isolation in selectively applying electrically conductive paint as taught by Plummer (see column 1, lines 12-16).

7. Claims 25, 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11267560A in view of Bihn (4,712,739) and Gengenbach et al (US 2,930,350) and/or JP 11-114873 as applied to claim 22 or 28 or 32 above and further in view of Klein et al (US 2001/0013315). JP'560 lacks teaching a pig removably inserted in the paint transfer line and being slidably moveable in the paint transfer line. Klein et al discloses (see Fig 1 and paragraphs 32 and 37) a pig (32) removably inserted in the paint transfer line and being slidably moveable in the paint transfer line. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a pig movable as claimed in JP'560 to introduce only the quantity of paint which is required overall as taught by Klein et al (see paragraph 9).

***Allowable Subject Matter***

8. Claims 1-12 are allowed.

9. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is an examiner's statement of reasons for allowance: as to claims 1-12 see reasons of allowance described on the action mailed on 09/02/2005. With respect to claim 29, on Fig 10 of JP'560 the color changer is mounted on the external



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surface of the arm, however in this embodiment the canister (pump 29) is externally mounted. In the embodiment of Fig 11 of JP'560 the canister (pump 97) is within the housing of the arm (6) and the color changer (11), in communication with the supply lines, is located outside the housing. There is no reason to combine the two embodiments in order to mount the color changer on an external surface of the housing. Prior art of record does not disclose or suggest a painting apparatus comprising an outer arm for a painting robot having a housing, a color changer, a paint canister mounted inside the housing, among others, a color changer mounted on an external surface of the housing.

### ***Response to Arguments***

11. Applicants' arguments with respect to claims 22-31 have been considered but are moot in view of the new ground(s) of rejection. As shown in the rejection above JP'560 painting apparatus can be used in electrostatic application, wherein the painting gun (9) capable of being an electrostatic gun, mounted on the robot arm to increase the atomization of paint. In electrostatic application of paint using an electrostatic gun, insulation of arm part is required to prevent electrical hazards. One in the art would form the housing of JP' arm (6) from an insulative material to properly insulate the electric spraying gun –preventing for example a fire hazard. As such, it would have been obvious to one of ordinary skill in the art to form the outer arm from insulative material to prevent electrical hazards. As to the material being electrically conductive paint, JP'560 device as modified is capable of using such paint. It is well known in the

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art to use electrically conductive paint using an electrostatic apparatus such as evidenced by Minoura et al (see Fig 1 and column 4, lines 11-22).

As to the summarized argument of page 12 of applicants' remarks: arm made of non-conductive material is taught by Gengenbach et al; JP'560 discloses a pump (29, 97), which is considered to be a paint canister mounted inside the housing (6); a paint transfer line (19) continuously connecting the color changer (11) to an interior of the paint canister (29) is shown in Figs 2 and 8 of JP'560; a wrist (7) having one end (7a) attached to the outer end of the arm (6) is indicated in Fig 2 of JP'560 and the structural components of the wrist being formed of non-conductive material is disclosed in JP' 873. The limitation listed in item 3 that the paint transfer line used "for transferring paint from the color changer to... and providing...." Is intended use of the apparatus, which is capable of being performed using JP'560' device.

Furthermore, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) **Furthermore, "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."** *Ex parte Thibault*, 164 USPQ 666,667 (Bd. App. 1969). Thus, the "inclusion of material or article worked upon does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



YTT